8 Wisconsin Expenditures for Energy

In 2007, Wisconsin's energy expenditures exceeded $21.5 billion. This was a 9.9 percent increase, or $1.9 billion more than 2006 expenditures. Among the individual energy sources, petroleum expenditures increased $1,196.8 billion (11.3 percent), electricity expenditures increased $323.5 million (5.7 percent), coal expenditures increased $8.7 million (6 percent), while natural gas expenditures increased by $418.3 million (12.8 percent).

In 2007, residential energy expenditures increased by $470 million (11.2 percent). Commercial expenditures increased by $187.7 million or 6.4 percent, with increases in electrical expenditures of $115.7 million (6.1 percent), petroleum of $22 million (12.3 percent), natural gas of $49.1 (5.8 percent) and coal expenditures increased by $900,000 or 6.8 percent over 2006 levels.

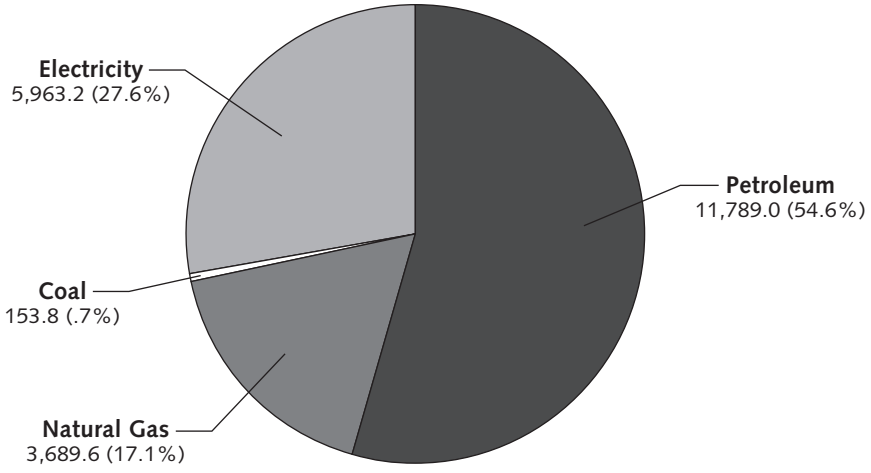
While end use energy consumption in the industrial sector decreased by 2.1 percent (see page 14), expenditures increased by $238.1 million (8 percent). The industrial sector saw electricity expenditures increase by 5.8 percent ($85.5 million). This is significant because electricity provides 30 percent (see page 13) of the energy used in the industrial sector.

The tables in this chapter show annual expenditures for the major energy resources used by Wisconsin's residential, commercial, industrial, agricultural and transportation sectors since 1970. Because consistent and reliable historic prices of wood, waste fuels and biogas are not available, expenditures for these fuels are excluded from the tables.

Wisconsin End Use Energy Expenditures, by Type of Fuel

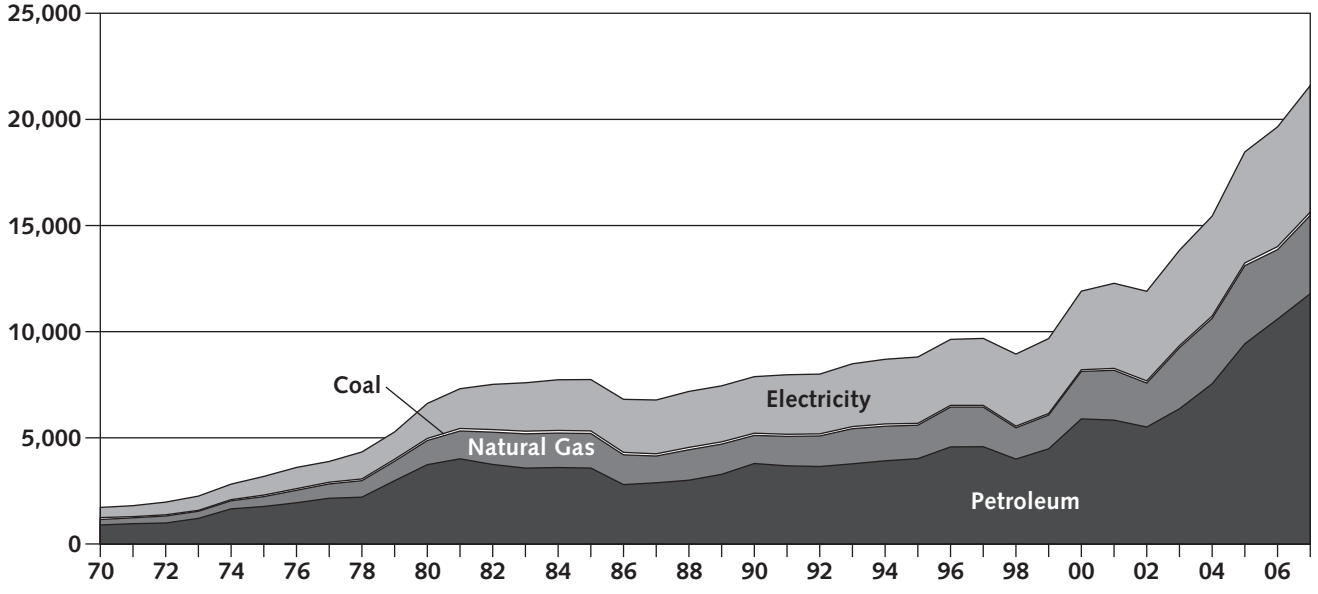
2007

(Millions of Dollars and Percent of Total)



1970-2007

(Millions of Dollars)



Source: Wisconsin Office of Energy Independence.

Wisconsin End Use Energy Expenditures, by Type of Fuel[r], 1970-2007

(Millions of Dollars and Percent of Total)

In 2007, Wisconsin's overall energy bill set a new record of more than $21.5 billion, an increase of $1.9 billion (9.9 percent) over 2006. Expenditures increased for all fuels. Since 2000, Wisconsin's total energy expenditures have increased by $9.7 billion (81.3 percent).

Year	Petroleum		Natural Gas		Coal		Electricity		Total
1970	893.7	(52.0%)	257.2	(15.2%)	91.3	(5.4%)	477.6	(28.3%)	1,719.7
1975	1,764.4	(55.4)	465.1	(14.6)	73.2	(2.3)	879.3	(27.6)	3,182.1
1980	3,733.9	(56.4)	1,137.4	(17.2)	99.3	(1.5)	1,648.0	(24.9)	6,618.5
1985	3,574.8	(46.2)	1,628.0	(21.0)	121.6	(1.6)	2,420.9	(31.3)	7,745.4
1990	3,789.0	(48.1)	1,324.4	(16.8)	102.9	(1.3)	2,664.5	(33.8)	7,881.0
1995	4,017.7	(45.6)	1,576.7	(17.9)	85.6	(1.0)	3,127.5	(35.5)	8,807.5
2000	5,890.8	(49.5)	2,235.9	(18.8)	80.1	(0.7)	3,703.2	(31.1)	11,910.0
2001	5,831.3	(47.5)	2,348.8	(19.1)	90.9	(0.7)	4,007.5	(32.6)	12,278.5
2002	5,508.6	(46.3)	2,070.4	(17.4)	101.5	(0.9)	4,222.1	(35.5)	11,902.6
2003	6,365.3	(46.0)	2,876.7	(20.8)	98.7	(0.7)	4,493.9	(32.5)	13,834.6
2004	7,545.1	(48.9)	3,082.8	(20.0)	109.2	(0.7)	4,707.2	(30.5)	15,444.3
2005	9,431.0	(51.1)	3,678.9	(19.9)	128.3	(0.7)	5,231.6	(28.3)	18,469.8
2006	10,592.2	(53.9)	3,271.3	(16.6)	145.1	(0.7)	5,639.7	(28.7)	19,648.3
2007[p]	**11,789.0**	**(54.6)**	**3,689.6**	**(17.1)**	**153.8**	**(0.7)**	**5,963.2**	**(27.6)**	**21,595.6**

[r] Revised due to revisions in price and consumption data.

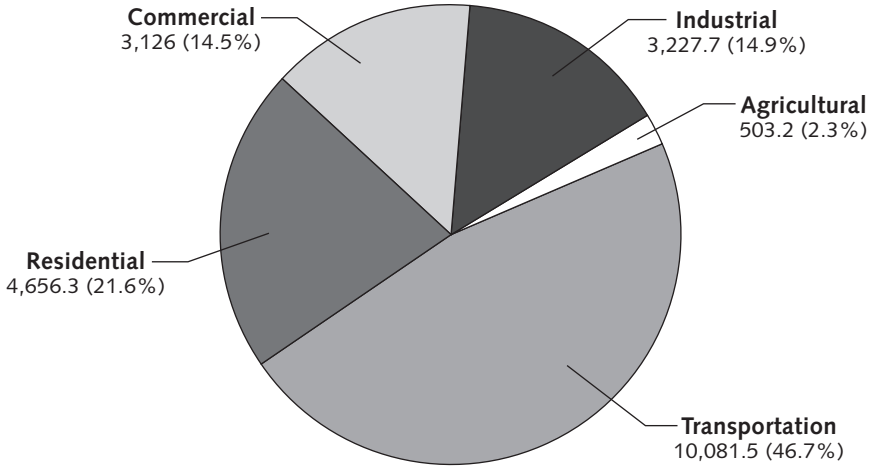
[p] Preliminary estimates.

Source: Compiled from tables in this publication for Wisconsin petroleum, natural gas, coal and electricity use and prices, by economic sector.

Wisconsin End Use Energy Expenditures, by Economic Sector

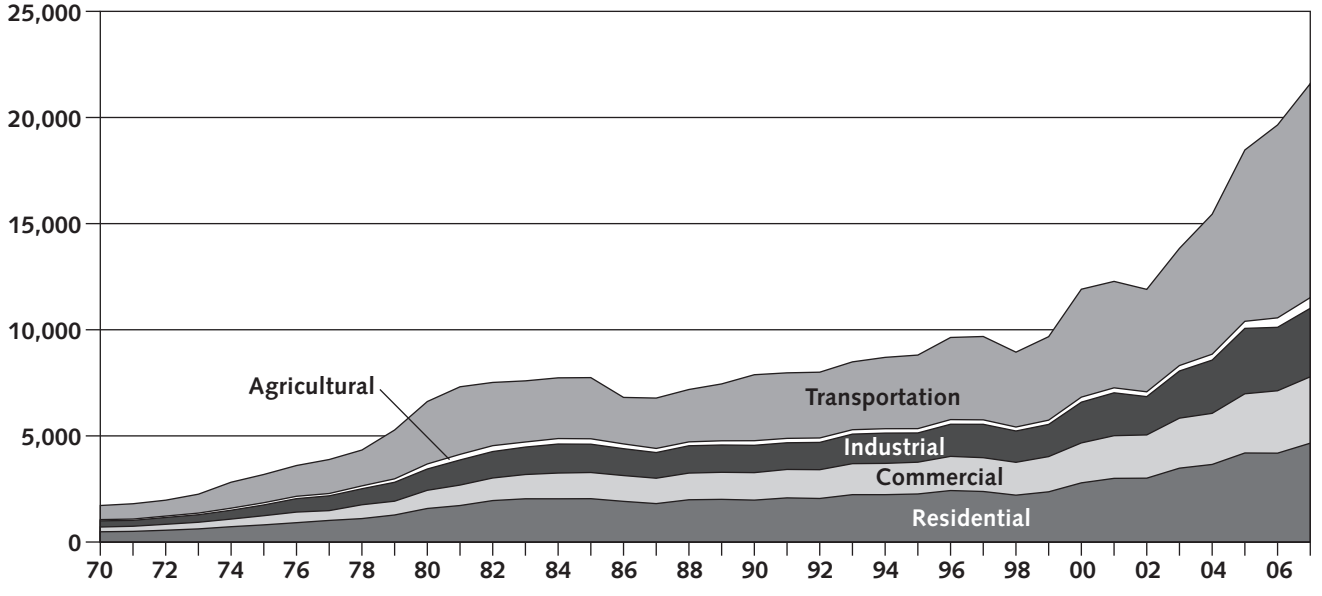
2007

(Millions of Dollars and Percent of Total)



1970-2007

(Millions of Dollars)



Source: Wisconsin Office of Energy Independence.

Wisconsin End Use Energy Expenditures, by Economic Sector[r], 1970-2007

(Millions of Dollars and Percent of Total)

In 2007, energy expenditures increased in all sectors, with total expenditures increasing $1.9 billion or 9.9 percent.

Year	Residential		Commercial		Industrial		Agricultural		Transportation		Total
1970	482.4	(28.1%)	224.4	(13.0%)	290.6	(16.9%)	58.7	(3.4%)	663.7	(38.6%)	1,719.7
1975	808.2	(25.4)	431.6	(13.6)	506.8	(15.9)	104.9	(3.3)	1330.6	(41.8)	3,182.1
1980	1,580.2	(23.9)	856.1	(12.9)	1,003.9	(15.2)	236.7	(3.6)	2,941.6	(44.4)	6,618.5
1985	2,041.8	(26.4)	1,232.7	(15.9)	1,334.4	(17.2)	254.4	(3.3)	2,882.1	(37.2)	7,745.4
1990	1,974.1	(25.0)	1,294.1	(16.4)	1,287.6	(16.3)	216.9	(2.8)	3,108.2	(39.4)	7,881.0
1995	2,263.5	(25.7)	1,497.0	(17.0)	1,378.0	(15.6)	202.7	(2.3)	3,466.3	(39.4)	8,807.5
2000	2,787.2	(23.4)	1,881.2	(15.8)	1,920.4	(16.1)	237.0	(2.0)	5,084.1	(42.7)	11,910.0
2001	2,999.7	(24.4)	2,009.7	(16.4)	2,019.8	(16.4)	234.9	(1.9)	5,014.4	(40.8)	12,278.5
2002	3,008.0	(25.3)	2,037.2	(17.1)	1,803.9	(15.2)	227.1	(1.9)	4,826.3	(40.5)	11,902.6
2003	3,479.5	(25.2)	2,355.4	(17.0)	2,222.8	(16.1)	256.4	(1.9)	5,520.5	(39.9)	13,834.6
2004	3,654.6	(23.7)	2,407.8	(15.6)	2,508.1	(16.2)	278.1	(1.8)	6,595.6	(42.7)	15,444.3
2005	4,194.8	(22.7)	2,788.6	(15.1)	3,081.2	(16.7)	333.6	(1.8)	8,071.6	(43.7)	18,469.8
2006	4,186.3	(21.3)	2,939.2	(15.0)	2,989.6	(15.2)	445.3	(2.3)	9,087.8	(46.3)	19,648.3
2007[p]	**4,656.3**	**(21.6)**	**3,126.9**	**(14.5)**	**3,227.7**	**(14.9)**	**503.2**	**(2.3)**	**10,081.5**	**(46.7)**	**21,595.6**

[r] Revised due to revisions in price and consumption data.

[p] Preliminary estimates.

Source: Compiled from tables in this publication for Wisconsin residential, commercial, industrial, agricultural and transportation energy use and prices, by type of fuel.

Wisconsin Expenditures for Residential Energy, by Type of Fuel[r], 1970-2007

(Millions of Dollars and Percent of Total)

In 2007, overall residential energy expenditures increased by 11.2 percent ($470 million) over 2006. Expenditures for all fuel types increased, with the exception of coal.

Year	Petroleum		Natural Gas		Coal		Electricity		Total[a]
1970	142.6	(29.6%)	132.4	(27.4%)	15.5	(3.2%)	191.9	(39.8%)	482.4
1975	250.5	(31.0)	203.8	(25.2)	11.8	(1.5)	342.0	(42.3)	808.2
1980	483.8	(30.6)	473.1	(29.9)	9.0	(0.6)	614.4	(38.9)	1,580.2
1985	393.7	(19.3)	752.1	(36.8)	3.8	(0.2)	892.2	(43.7)	2,041.8
1990	342.9	(17.4)	652.6	(33.1)	1.3	(0.1)	977.3	(49.5)	1,974.1
1995	282.7	(12.5)	792.0	(35.0)	1.1	(0.0)	1,187.7	(52.5)	2,263.5
2000	394.5	(14.2)	1,021.6	(36.7)	0.7	(0.0)	1,370.4	(49.2)	2,787.2
2001	402.9	(13.4)	1,095.9	(36.5)	0.7	(0.0)	1,500.2	(50.0)	2,999.7
2002	359.3	(11.9)	1,009.6	(33.6)	0.7	(0.0)	1,638.5	(54.5)	3,008.0
2003	446.0	(12.8)	1,316.5	(37.8)	0.6	(0.0)	1,716.3	(49.3)	3,479.5
2004	496.7	(13.6)	1,369.2	(37.5)	0.6	(0.0)	1,788.2	(48.9)	3,654.6
2005	613.3	(14.6)	1,564.2	(37.3)	0.6	(0.0)	2,016.7	(48.1)	4,194.8
2006	617.9	(14.8)	1,442.1	(34.4)	0.5	(0.0)	2,125.9	(50.8)	4,186.3
2007[p]	**774.6**	**(16.6)**	**1,623.4**	**(34.9)**	**0.5**	**(0.0)**	**2,257.7**	**(48.5)**	**4,656.3**

[a] Does not include renewable energy, except those renewable fuels used in electricity production.

[r] Revised due to revisions in price and consumption data.

[p] Preliminary estimates.

Source: Compiled from tables in this publication for Wisconsin residential energy use and prices.

Wisconsin Expenditures for Commercial Energy, by Type of Fuel[r], 1970-2007

(Millions of Dollars and Percent of Total)

Commercial energy expenditures increased 6.4 percent in 2007. Commercial energy expenditures are dominated by electricity used for lighting, cooling, ventilation and office equipment. Electricity use increased slightly which combined with higher electricity prices caused electricity expenditures to increase 6.1 percent.

Year	Petroleum		Natural Gas		Coal		Electricity		Total
1970	34.7	(15.4%)	40.9	(18.2%)	11.7	(5.2%)	137.1	(61.1%)	224.4
1975	70.8	(16.4)	78.7	(18.2)	9.1	(2.1)	273.0	(63.3)	431.6
1980	82.4	(9.6)	210.6	(24.6)	7.7	(0.9)	555.4	(64.9)	856.1
1985	104.5	(8.5)	311.0	(25.2)	9.3	(0.8)	807.9	(65.5)	1,232.7
1990	92.8	(7.2)	279.5	(21.6)	8.2	(0.6)	913.7	(70.6)	1,294.1
1995	73.9	(4.9)	374.1	(25.0)	6.2	(0.4)	1,042.8	(69.7)	1,497.0
2000	103.8	(5.5)	480.8	(25.6)	8.0	(0.4)	1,288.7	(68.5)	1,881.2
2001	104.3	(5.2)	526.4	(26.2)	8.6	(0.4)	1,370.3	(68.2)	2,009.7
2002	91.5	(4.5)	479.2	(23.5)	8.8	(0.4)	1,457.8	(71.6)	2,037.2
2003	114.8	(4.9)	666.2	(28.3)	9.2	(0.4)	1,565.2	(66.5)	2,355.4
2004	129.4	(5.4)	690.5	(28.7)	10.0	(0.4)	1,577.9	(65.5)	2,407.8
2005	173.0	(6.2)	877.6	(31.5)	12.2	(0.4)	1,725.8	(61.9)	2,788.6
2006	179.3	(6.1)	841.7	(28.6)	13.6	(0.5)	1,904.7	(64.8)	2,939.2
2007[p]	**201.3**	**(6.4)**	**890.8**	**(28.5)**	**14.5**	**(0.5)**	**2,020.3**	**(64.6)**	**3,126.9**

[r] Revised due to revisions in price and consumption data.

[p] Preliminary estimates.

Source: Compiled from tables in this publication for Wisconsin commercial energy use and prices.

Wisconsin Expenditures for Industrial Energy, by Type of Fuel[r], 1970-2007

(Millions of Dollars and Percent of Total)

In 2007, industrial energy expenditures increased 8.0 percent. Industrial energy use is dominated by electricity and natural gas. Expenditures on electricity, natural gas and coal increased by 5.8, 19 and 5.9 percent respectively. Petroleum expenditures decreased by 11 percent.

Year	Petroleum		Natural Gas		Coal		Electricity		Total
1970	18.7	(6.4%)	83.8	(28.9%)	64.1	(22.1%)	124.0	(42.7%)	290.6
1975	46.7	(9.2)	182.6	(36.0)	52.4	(10.3)	225.1	(44.4)	506.8
1980	65.4	(6.5)	453.7	(45.2)	82.6	(8.2)	402.1	(40.1)	1,003.9
1985	50.4	(3.8)	564.9	(42.3)	108.5	(8.1)	610.6	(45.8)	1,334.4
1990	123.3	(9.6)	392.3	(30.5)	93.5	(7.3)	678.5	(52.7)	1,287.6
1995	84.3	(6.1)	410.6	(29.8)	78.3	(5.7)	804.8	(58.4)	1,378.0
2000	165.0	(8.6)	733.5	(38.2)	71.3	(3.7)	950.5	(49.5)	1,920.4
2001	173.0	(8.6)	726.5	(36.0)	81.6	(4.0)	1,038.7	(51.4)	2,019.8
2002	105.5	(5.8)	581.6	(32.2)	92.0	(5.1)	1,024.8	(56.8)	1,803.9
2003	136.8	(6.2)	894.0	(40.2)	88.9	(4.0)	1,103.1	(49.6)	2,222.8
2004	152.2	(6.1)	1,023.1	(40.8)	98.6	(3.9)	1,234.2	(49.2)	2,508.1
2005	360.9	(11.7)	1,237.0	(40.1)	115.5	(3.7)	1,367.8	(44.4)	3,081.2
2006	391.8	(13.1)	987.5	(33.0)	131.1	(4.4)	1,479.2	(49.5)	2,989.6
2007[p]	**348.7**	**(10.8)**	**1,175.4**	**(36.4)**	**138.8**	**(4.3)**	**1,564.7**	**(48.5)**	**3,227.7**

[r] Revised due to revisions in price and consumption data.

[p] Preliminary estimates.

Source: Compiled from tables in this publication for Wisconsin industrial energy use and prices.

Wisconsin Expenditures for Agricultural Energy, by Type of Fuel[r], 1970-2007

(Millions of Dollars and Percent of Total)

Beginning in 2005, the methodology used to determine the volume of fuel used in the agricultural sector differed from previous years and allowed the introduction of previously unaccounted for gallons of untaxed diesel fuel.

Wisconsin's agricultural energy bill is 13 percent more than 2006. This is due to increased fuel prices and increased, counted fuel volume.

Year	Motor Gasoline	Diesel Fuel[a]	LPG	Total Petroleum		Electricity		Total
1970	19.1	9.8	5.2	34.1	(58.1%)	24.6	(41.9%)	58.7
1975	30.9	24.1	10.8	65.8	(62.7)	39.1	(37.3)	104.9
1980	38.7	94.8	22.9	156.4	(67.3)	76.0	(32.7)	232.4
1985	22.4	98.3	27.8	148.5	(57.4)	110.3	(42.6)	258.8
1990	9.6	88.1	22.4	120.1	(55.8)	95.1	(44.2)	215.2
1995	6.6	80.8	23.1	110.5	(54.5)	92.2	(45.5)	202.7
2000	7.1	108.8	27.5	143.4	(60.5)	93.6	(39.5)	237.0
2001	7.0	100.5	29.1	136.6	(58.2)	98.3	(41.8)	234.9
2002	6.4	94.7	24.9	126.0	(55.5)	101.0	(44.5)	227.1
2003	7.5	111.2	28.4	147.1	(57.4)	109.3	(42.6)	256.4
2004	9.0	128.7	33.4	171.2	(61.6)	106.9	(38.4)	278.1
2005[b]	25.9	148.7	37.7	212.3	(63.6)	121.3	(36.4)	333.6
2006[b]	18.9	247.9	48.5	315.4	(70.8)	129.9	(29.2)	445.3
2007[p,b]	**35.6**	**294.2**	**53.0**	**382.8**	**(76.1)**	**120.4**	**(23.9)**	**503.2**

[a] Includes fuel oil and kerosene.

[b] OEI discontinued a per-acre approach to gathering fuel data for the agriculture sector and substituted data from the Wisconsin Department of Revenue and from the federal National Agriculture Statistics Service (NASS). Data from NASS were not available previously. Using former methodology, the figures for 2005 through 2007 are as follows. Motor Gasoline—2005, 11.3; 2006, 13.0; and 2007, 15.1. Diesel Fuel—2005, 183.5; 2006, 208.8; and 2007, 225.9. LPG—2005, 34.0; 2006, 35.4, and 2007, 43.3. All totals in the table reflect current methodology.

[r] Revised due to revisions in price and consumption data.

[p] Preliminary estimates.

Source: Compiled from tables in this publication for Wisconsin agricultural energy use and prices.

Wisconsin Expenditures for Transportation Energy, by Type of Fuel[r], 1970-2007

(Millions of Dollars)

Wisconsin's transportation energy bill increased 10.9 percent ($993.7 million dollars) in 2007. Vehicle gasoline accounts for almost three-quarters of transportation expenditures (73.3 percent), costing motorists almost $7.4 billion.

Year	Vehicle Gasoline[a]	Diesel Fuel	Aviation Gasoline	Jet Fuel	Middle Distillate	Residual Oil	Total
1970	625.9	22.7	2.4	5.9	6.3	0.4	663.7
1975	1,215.8	73.6	4.5	21.2	13.8	1.7	1,330.6
1980	2,512.2	307.6	8.4	72.7	37.8	3.0	2,941.6
1985	2,369.2	428.4	5.5	52.0	21.3	5.7	2,882.1
1990	2,429.1	573.1	6.1	71.5	25.6	2.8	3,108.2
1995	2,661.8	724.3	6.5	50.9	22.7	0.0	3,466.3
2000	3,850.2	1,101.5	9.3	85.3	37.8	0.0	5,084.1
2001	3,842.3	1,054.6	8.0	73.8	35.7	0.0	5,014.4
2002	3,718.4	997.7	6.5	72.2	31.5	0.0	4,826.3
2003	4,284.1	1,113.0	6.1	83.8	33.6	0.0	5,520.5
2004	5,034.0	1,388.3	7.5	121.4	44.4	0.0	6,595.6
2005	5,989.5	1,815.2	9.3	193.6	64.0	0.0	8,071.6
2006	6,597.4	2,189.6	8.9	213.2	78.9	0.0	9,087.8
2007[p]	**7,390.3**	**2,350.6**	**9.6**	**207.0**	**124.1**	**0.0**	**10,081.5**

[a] Includes ethanol.

[r] Revised due to revisions in price and consumption data.

[p] Preliminary estimates.

Source: Compiled from tables in this publication for Wisconsin transportation energy use and prices.